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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,075	12/31/2001	Robert A. Boudrie	P 283212 EMC-01-185	5623

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EMC CORPORATION
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354ATURNPIKE STREET
SUITE 301A
CANTON, MA 02021-2714

EXAMINER

ROBINSON, GRETA LEE

ART UNIT

PAPER NUMBER

2168

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/032,075	Applicant(s) BOUDRIE ET AL.	
	Examiner Greta L. Robinson	Art Unit 2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 6, 2006 has been entered.

2. Claims 1-13 are pending in the present application.

Drawings

3. The drawings are objected to for the following reasons:

- Partial Views in Figure 2, see 37 CFR 1.184(h);
- Figure 3 is labeled "BACKGROUND ART"; but should read "PRIOR ART".

See MPEP § 608.02(g).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 30, 32, 34 and 48 (see Figure 2); and 64 (see Figure 4). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "24" has been used to designate multiple channels in the same view. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

Replacement Drawing Sheets

Drawing changes must be made by presenting replacement sheets which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments section, or remarks, section of the amendment paper. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). A replacement sheet must include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of the amended drawing(s) must not be labeled as "amended." If the changes to the drawing figure(s) are not accepted by the examiner, applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless applicant is notified.

Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not

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been assigned to the application. If this information is provided, it must be placed on the front of each sheet and within the top margin.

Annotated Drawing Sheets

A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be submitted or required by the examiner. The annotated drawing sheet(s) must be clearly labeled as "Annotated Sheet" and must be presented in the amendment or remarks section that explains the change(s) to the drawings.

Timing of Corrections

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.85(a). Failure to take corrective action within the set period will result in ABANDONMENT of the application.

If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings MUST be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability.

Specification

6. The disclosure is objected to because of the following informalities:

- Note *typographical error* on page 10 paragraph 0036 line 9, Applicant has not included an end bracket to text that should be in parenthesis [i.e. ")"] is missing].

Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uemura et al. US Patent 5,720,026 in view of Levy et al. *Incremental Recovery in Main Memory Database Systems* and Bolt et al. US Patent 6,038,665.

Regarding claim 1, **Uemura et al.** teaches a method for incrementally backing up data from a logically represented volume on a disk media, accessible by a client through a network connection, the client comprising an enterprise database application [note: column 7 lines 6-15], said method comprising:

identifying tracks of the logically represented volume that have changed since a last incremental backup operation by reading fresh data indications, (i) wherein each of the fresh data indications correspond to a track of the logically represented volume and (ii) wherein a given fresh data indication is indicative of whether its corresponding track

has been changed since a last incremental backup operation [note: column 8 lines 42-61; Figure 3];

identifying files for incremental backup, the identified files comprising changed and unchanged blocks saved on track deemed changed since a last incremental backup operation [note: column 4 lines 34-64; column 10 lines 4-67; figure 8]; and

incrementally backing up the identified files from the disk media to sequential storage media through a high sped connection [note: Figure 1; Figure 4 and figure 11; abstract; "incremental backup is performed" column 5 lines 20-43 and column 7 lines 6-15].

Although Uemura et al. teaches the invention substantially as cited above, they do not explicitly teach fresh indications correspond to the track of logically represented data. Levy et al. teaches fresh/stale markings [note: pages 534-535 Stale/fresh markings]. It would have been obvious to one of ordinary skill at the time of the invention to have combined Levy et al. with Uemura et al. because the marking technique would enable very fast access to the data. Also, this technique would optimize the recovery speed of post-crash transactions. Uemura et al. and Levy et al. do not specifically disclose that the identified files comprise unchanged blocks saved on track. However, **Bolt et al.** teaches identifying blocks of data for backup which include unchanged blocks [note: column 9 lines 22-40; Figure 3 step 76]. Bolt et al. also allows for *user-defined sets* in defining blocks of data for backup [note: Figure 9 steps 180, 182 and 184; column 13 lines 4-42]. It would have been obvious to one of ordinary skill at the time of the invention to have combined Bolt et al. with the cited references because

user-defined sets would provide greater flexibility to the end users in backing up blocks of data.

9. Regarding claims 2-5:

(claim 2) wherein the identified files are backed up in their entirety [note: Uemura et al. allows full backup, see Figure 11 element 907 Full backup Switch; also note column 4 lines 33-35];

(claim 3) wherein the act of identifying tracks, files ... are performed by a data manager [note: Uemura et al., logical management mechanism 206 Figure 2];

(claim 4) wherein said fresh data indications comprises flag bits ... [see: Levy et al. page 534-535];

(claim 5) wherein said fresh data indications comprise change marks [note: Levy et al. pages 534-535 Stale/Fresh Markings].

10. The limitations of system claims 6-9 and computer program claims 10-13 parallel method claims 1-5; therefore they are rejected under the same rationale.

Response to Arguments

11. Applicant's arguments filed February 6, 2006 have been fully considered but they are not persuasive.

In the response Applicant argued, "track-based incremental backup" features are recited in the claim 1 and clarification is requested as to why *In re Van Geuns* was cited in the advisory action mailed December 5, 2005. Applicant states the present invention does not claim incremental backups in general, but rather a track-based incremental backup technique.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "track-based incremental backup") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Note Applicant does not use the term "track-based incremental backup"; but rather "incrementally backing up data" and "incremental backup". The examiner notes, the limitation "identifying tracks of the logically represented volume that have changed since a last incremental backup operation by reading fresh data indications". Uemura et al. teaches the ability to identify tracks of logically represented volume that have changed [note: logical volume management mechanism 206 col. 8 lines 42-61; also note 203 difference management mechanism for managing difference data in disk blocks col. 4 lines 34-64]. Also **Applicant admits in the disclosure that** "change marks and the mechanisms for populating and managing the same are well known in the art" [see: disclosure page 10 paragraph 0034 lines 9-10].

Applicant argues Uemura is limited to backup of changed blocks, and does not teach identifying files for incremental backup having changed and unchanged blocks. Prior art reference Bolt et al. was cited for teaching identifying both unchanged and changed blocks of data; also Bolt et al. provides for user-defined sets in defining blocks of data for backup [see: col. 9 lines 22-40; Figure 3 step 76; Figure 9 steps 180, 182, 184; and col. 13 lines 4-42].

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Grummon US Patent 6,460,054 B1

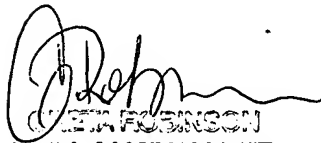
Huebsch et al. US Patent 6,487,644 B1

Barth et al. US Patent 5,045,996

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greta L. Robinson whose telephone number is (571)272-4118. The examiner can normally be reached on M-F 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim T. Vo can be reached on (571)272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Greta Robinson
Primary Examiner

Greta Robinson
Primary Examiner
April 5, 2006